A new market trend

E-House

Make the most of your energy

Schneider Electric

An optimized solution realized in an industrial process

E - House

The Electrical House (E-House) is a factory integrated, tested, validated, compact power distribution solution. The E-House contains Medium Voltage switchgear, motor control centers, transformers, HVAC, UPS, and building management and control systems. It helps you reduce construction lead times, optimize the cost of transportation, installation and commissioning, and enhance uptime thanks to qualified and reliable design.

The E-House is the ideal solution for projects in all type of industries such as Oil & Gas, Mining & Minerals, Off-shore, Utilities, Electro-intensive industries or Railways.

Increase safety for people and equipment:

> Internal arc protection and thermal insulation
> Equipment protection in harsh environments
> Compliance with local standards

Simplify:

> One partner for the complete distribution solution
> One project management team simplifies processes, time management, and control
> One engineering design team optimizes costs

Reduce costs:

> CAPEX reduction thanks to reduced engineering, installation, and commissioning costs
> The complete engineered solution is controlled, tested and pre-commissioned within the factory it enables to save time on-site
> OPEX reduction via a highly serviceable design and local technical experts
> Enhanced uptime due to qualified and reliable design

SKSOL. Cartagena - Spain

SKSOL is a Joint Venture established in 2012 by SK Lubricants (70%) and Repsol Petroleo (30%) for the construction and operation of a Group 3 Base Oil Plant in Cartagena. Schneider Electric has provided an Electrical Substation (E-House) to ensure the quality and reliability of the electrical power supply of the new Lubricant Base Oils plant in Cartagena.

Some of the advantages of the solution include the optimization of the overall installation cost, reduced lead time and commissioning. This was possible thanks to the pre-assembled plug-and-play solution that helped to reduce on-site work.

The largest integrated offer
for energy management

For painless execution of your industrial projects

Fully assembled and tested at the factory, an E-House contains a variety of integrated Schneider Electric equipment to meet the demanding requirements of your applications.

MV, LV Drives

Variable Speed Drive cabinets

MV, LV Equipment

Capacitor

Energy Management and Control System - Integrated Control and Protection systems (Invensys)

HVAC (Uniflair)

Cable trays

Best-in-class applications inside

Busways

MV, LV Equipment

MV, LV Drives

EMCS ICSS/ESD (1)

HVAC (2)

UPS (3)

Security (4)

BMS (5)

Engineering

Project Management

Integration & Testing

Asset Management
Lifetime Services

(1) EMCS ICSS/ESD (Invensys) - Electrical, Monitoring & Control Systems Integrated & Control Safety Systems - Integrated Emergency Shut Down
(2) HVAC (Uniflair) - (3) UPS (APC/Gutor) - (4) Security (Pelco) - (5) BMS - Building Management Systems

Customised and scalable design for Utilities, Oil & Gas, Mining & Minerals

Your E-House will be customised to the specific power and environmental needs of your project.
The panel design makes it easily adaptable for the equipment layout you require, and simplifies any future expansion.

Container

Application for all segments:
Electrical distribution mainly - Simple project - Temporary or fixed - single or modular design.
Building type and equipment:
Fully welded based on marine container - MV, LV, Transformer - Can be MV LV VSD (Mining & Minerals ; Oil & Gas projects) - HVAC + F&G.
Key particularities:
Stand alone - Minimum offer - Standard size, lean supply chain - Customization possible but price impact.

Fully welded (onshore)

Typical application for Mining & Minerals, Oil & Gas:
All large sized project - High technical features - Open pit mine - LNG plant, Process, Refinery.
Building type and equipment:
Welded base frame, panels, roof - MV equipment, LV equipment - MV, LV, VSD - Automation, process - Data centre (Oil & Gas) - HVAC + F&G - Blast & fire rated.
Key particularities:
Stand alone - Multi sections buildings - Size limitation linked to manufacturer (yard).

Fully welded (offshore)

Typical application for Mining & Minerals, Oil & Gas:
All large project when high level of technical features. FLNG FPSO. Process module.
Building type and equipment:
Welded base frame, panels, roof - MV equipment, LV equipment - MV, LV, VSD - Automation, process - HVAC + F&G - High level of blast & fire rated.
Key particularities:
Stand alone - Multi sections buildings - Size limitation linked to manufacturer (yard).

Interlock

Typical application for Mining & Minerals, Oil & Gas:
Open pit mine - Medium size project - LNG plant, Process, Refinery.
Building type and equipment:
Welded base frame - Walls roof interlock panels - MV equipment, LV equipment - MV, LV, VSD - Automation, process - Data centre (Oil & Gas) - HVAC + F&G - Limited Blast & fire rated vs fully welded.
Key particularities:
Stand alone - Modularity (single piece) 20X5 - Multi sections buildings - Competitive offer.

Skid (draggable)

Typical application mainly for Mining & Minerals:
Open pit mining - Underground mining - Wellhead Wellpad (Oil & Gas).
Building type and equipment:
Skid based frame - Skeleton/enclosure or fence - MV equipment, LV equipment (outdoor or indoor) - MV, LV, VSD - Automation, process - HVAC + F&G - Blast, fire rated, ATEX (wellhead Oil & Gas).
Key particularities:
Suitable for movable, draggable application - Stand alone - Mechanical and electrical design adapted.

Sandwich panel

Typical application for Mining & Minerals, Oil & Gas:
Small O&G project - Medium size project - LNG plant, Process, Refinery - Adapted to low temperature.
Building type and equipment:
Welded base frame - Sandwich panels - MV equipment, LV equipment - MV, LV, VSD - Automation, process - Data centre (Oil & Gas) - HVAC + F&G - Limited Blast & fire rated vs fully welded.
Key particularities:
Stand alone - High thermal insulation level - Standard module 2.5X6 & modularity - Multi sections buildings - Competitive offer.

A focus on one of our reference buildings

Schneider Electric developed its own proprietary E-house design made from interlocked metal sheets. Largely used in North America, our interlock technology is among the most cost-effective and flexible solutions available.

- **Hot-rolled steel base frame and cold-formed steel walls**
  Welded and sized to support high mechanical loads, the base frame and walls have 6mm removable steel plates above and an aluminum liner fitted with rock or fiberglass insulation below.
- **Cold-formed steel roof**
  Designed to support heavy snow load, it also has a 2° slope. Rock or fiberglass fitted between the roof and the ceiling provides insulation.
- **Single or double doors**
  They can contain accessories such as keylocks and anti-panic handles, and removable panels can be fitted above them.

Medium Voltage Switchgear

LV equipment

MV, LV Drives

Interlock technology:
Features that help you do more

> **Module dimensions**
3,5 x 5 x 20 m (other dimensions on request)

> **Modular construction to suit all footprints**
Several modules can be coupled together, split along length or width

> **Minimum thermal insulation**
R2 (international system), R11 (US) as standard, and R3,5 (R19) as an option

> **High durability construction**
Withstands C5 corrosion by painting, including doors

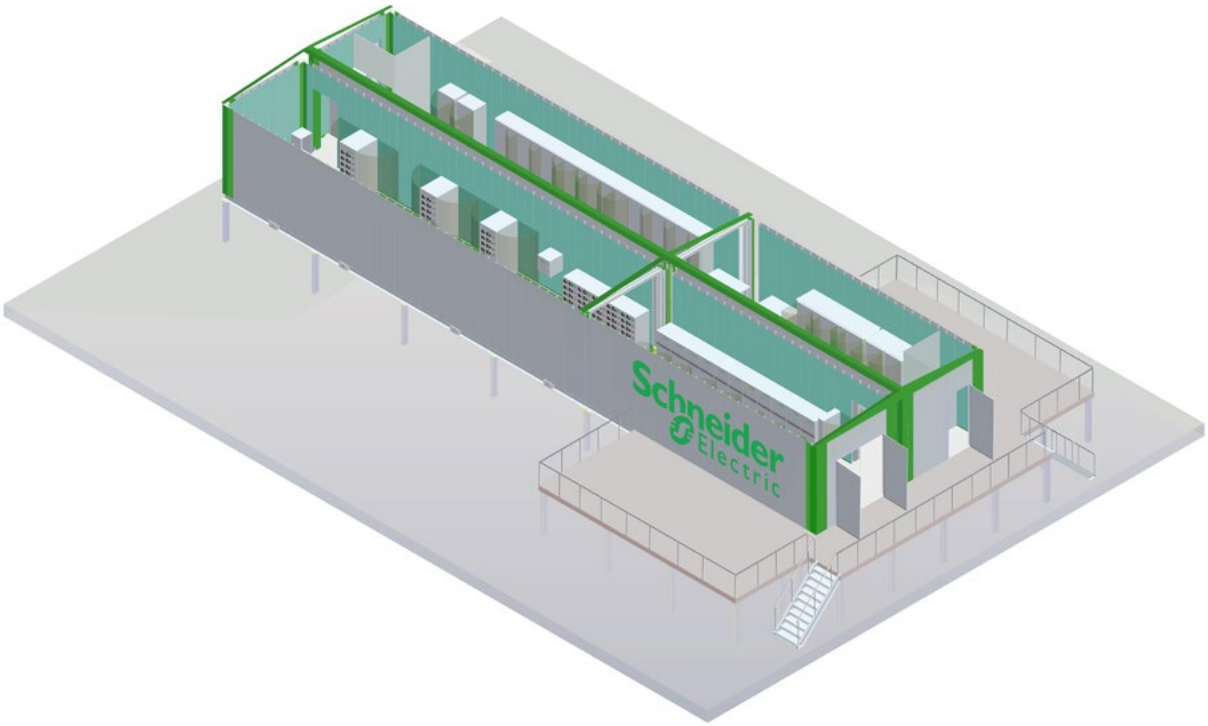
> **Minimum loads**
Equipment load: 575 daN/m² (120psf)
Live load floor: 714 daN/m² (150psf)
Live load roof: 250 daN/m² (52.5psf)
Wind speed: 40 m/s

> **Deflection**
L/400 for basement and L/200 for roof (can be customised).

> **Up to IP55 and IK10**

> **Fully compliant with IEC62271-202 (HV/LV substation)**
NEC, NEMA, and GOST standards available

> **Options**
Fire up to EI120, blast proof 3psi 0.2sec



Discover the benefits of our solution

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Robust:
Made from interlocked metal sheets certified according to Eurocode and IBC

Cost-optimized:
Interlock design adapted to customer applications (MV or LV switchgear) and to service environments

Worldwide:
Interlock design is deployed worldwide and benefits engineering capabilities through Schneider Electric application centres.

Schneider Electric, **your partner** for E-House solutions

Worldwide presence & proven global expertise

E-House Application Centres & Service Centres

Count on professional support from concept to commissioning:

- Worldwide execution and commissioning capabilities through regional project and engineering centres
- Certified engineering teams
- Local equipment production close to our customers to simplify logistics, delivery, and commissioning
- Optimised industrialisation and supply chain
- Enhanced design to boost overall installation efficiency
- Remote and lifetime maintenance of your equipment

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